I/We hereby declare that:

My/our residence, post office address and citizenship are as stated below next to my name,

I/We believe I am/we original, first and joint and claimed in paten sought on the inventi	t inventor (if plural ı t number <u>4,849,43</u>	names are listed <u>2</u> , granted <u>July</u>	l below) of t • 18, 1989 a	he subject mat	tter which is	describe
the specification of w	hich					
(check one)	☐ is being filed I	nerewith, or				
	⊠ was filed on	February 4, 200 nd was amended			n serial nur	nber
I hereby reviewed an claims, as amended	d understand the o	contents of the a	bove identi ve.	fied specificati	on, includin	g the
I acknowledge the du Code of Federal Reg	ity to disclose infor ulations §1.56.	mation which is	material to	patentability a	s defined in	Title 37,
I hereby claim foreigr application(s) for pate application for patent priority is claimed:	ent or inventor's ce	rtificate listed be	elow and ha	ve also identif	ied below a	ny foreigr
Prior Foreign Appl	ication(s)		•		Priority	Claimed
SHO 61-48629 (Number)	(Count		07 March (Day/Mon	1986 th/Yr. Filed)	☑yes	□ no
(Number)	(Count	ry)	(Day/Mon	th/Yr. Filed)	_ □yes	□ no
I hereby claim the ber listed below and, inso in the prior United Sta States Code, §112, I a of Federal Regulation national or PCT interr	ofar as the subject ates application in the acknowledge the das, §1.56(a) which conational filing date	matter of each of the manner proving to disclose no occurred between of this application.	of the claims vided by the naterial info en the filing	s of this applications of this application as defined at a control of the price of	ation is not on the of Title 35 ined in Title or application	disclosed 5, United 37, Code
(Application Serial	No.)	(Filing Date)		(Status (patented, pending,		
(Application Serial	No.)	(Filing Date)		(Status (patented, pending,		
(Application Serial	No.)	(Filing Date)		(Status	s)	

(Status) (patented, pending, abandoned)

•	•
I verily believe the original patent to be wholly or below. (check all boxes that apply)	partly inoperative or invalid, for the reasons described
☐ by reason of a defective specif	fication or drawing.
☐ by reason of the patentee clain the patent.	ning more or less than he had the right to claim in
☑ by reason of other errors as de	escribed below.
<ol> <li>In turn, limits such compound to those whereir substituted by methyl." Patent claim 9 recites two tetrahydrothiazine compound, which would corre</li> </ol>	uires "a compound according to claim 1." Patent claim  n "A represents an ethylene group which may be  o tetrahydropyrimidine compounds and one  spond to compounds of patent claim 1 wherein A  m 1 does not permit A to represent a propylene group.
Second, the USPTO has determined that patent inventions, and has required restriction.	claims contain multiple independent and distinct
The present reissue application corrects these two limited to pyrrolidine compounds by amending or CH-R <sup>3</sup> , and canceling original patent claims 2-6 at	vo errors as follows: The patent claims have been iginal patent claim 1 to cancel values of X other than and 9.
All errors corrected in this reissue application aro applicant.	se without any deceptive intention on the part of the
with the knowledge that willful false statements as imprisonment, or both, under Section 1001 of Title	of my own knowledge are true and that all statements e true; and further that these statements were made nd the like so made are punishable by fine or e 18 of the United States Code and that such willful e application or any patent issued thereon, or any
POWER OF ATTORNEY: As a named inventor, I	hereby appoint
Practioners Associated with the Customer Number:	27384
as my/our attorney(s) and/or agent(s) to prosecute Patent and Trademark Office connected therewith	e this application and transact all business in the n.
The undersigned hereby authorizes the U.S. att	torney or agent named herein to accept and follow

DIRECT TELEPHONE CALLS TO: Kurt G. Briscoe

attorney or agent and the undersigned.

(212) 808-0700

instructions from the Assignee of this application as to any action to be taken in the United States Patent and Trademark Office regarding this application without direct communication between the U.S.

FULL NAME OF SOLE OR FIRST INVENTOR KOZO SHIOKAWA	INVENTOR'S SIG	SNATURE	DATE
RESIDENCE 6-2-13 Chuo, Sagamihara-shi, Kanagawa, 229-0039, Jap	CITIZENSHIP Japanese		
POST OFFICE ADDRESS Same as above			
FULL NAME OF SECOND JOINT INVENTOR, IF ANY SHINICHI TSUBOI	INVENTOR'S SIG	NATURE	DATE
RESIDENCE 1-57-S 410, Wada, Suginami-ku, Tokyo, 166-0012, Japar POST OFFICE ADDRESS	)	CITIZENSHIP Japanese	
Same as above			
FULL NAME OF THIRD JOINT INVENTOR, IF ANY SHINZO KAGABU	INVENTOR'S SIG	NATURE	DATE
RESIDENCE 1246-22, Nagara, Gifu-shi, Gifu, 502-0071, Japan POST OFFICE ADDRESS Same as above		CITIZENSHIP Japanese	
		the second subsequence of the second	
FULL NAME OF FOURTH JOINT INVENTOR, IF ANY SHOKO SASAKI RESIDENCE	INVENTOR'S SIG	ki )	DATE April 19, 2006
6-10-8-111, Minamidaira, Hino-shi, Tokyo, 191-0041, Japa POST OFFICE ADDRESS	an engage en	CITIZENSHIP Japanese	Tremos se et
Same as above		···	
FULL NAME OF FIFTH JOINT INVENTOR, IF ANY KOICHI MORIYA  INVENTOR'S SIGNATURE			DATE
RESIDENCE	CITIZENSHIP		
3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap	oan	Japanese	
POST OFFICE ADDRESS Same as above	oan	Japanese	
POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI	INVENTOR'S SIG		DATE
POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI RESIDENCE 12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan			DATE
POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI RESIDENCE		NATURE CITIZENSHIP	DATE
POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI RESIDENCE 12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan POST OFFICE ADDRESS		NATURE CITIZENSHIP Japanese	DATE
POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI  RESIDENCE 12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan POST OFFICE ADDRESS Same as above	INVENTOR'S SIG	NATURE CITIZENSHIP Japanese	
POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI  RESIDENCE 12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan POST OFFICE ADDRESS Same as above  FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY	INVENTOR'S SIG	NATURE  CITIZENSHIP  Japanese  NATURE	
POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI  RESIDENCE 12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan POST OFFICE ADDRESS Same as above  FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY RESIDENCE	INVENTOR'S SIG	NATURE  CITIZENSHIP Japanese  NATURE  CITIZENSHIP	
POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI  RESIDENCE 12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan POST OFFICE ADDRESS Same as above  FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY RESIDENCE  POST OFFICE ADDRESS	INVENTOR'S SIG	NATURE  CITIZENSHIP Japanese  NATURE  CITIZENSHIP	DATE

I/We hereby declare that:

My/our residence, post office address and citizenship are as stated below next to my name,

I/We believe I am/we original, first and join and claimed in pater sought on the invent	t inventor (if plura It number <u>4,849,</u>	al names are liste <b>432</b> , granted <u>Ju</u>	ed below) of the st ly 18, 1989 and fo	ubject matter w	hich is d	lescribed
the specification of w	hich		•			
(check one)	☐ is being file	d herewith, or				•
			002 as reissue ed through April 1		ial numb	oer ·
l hereby reviewed an claims, as amended	d understand the by any amendm	e contents of the ent referred to al	above identified s	specification, in	ıcluding	the
l acknowledge the du Code of Federal Reg	uty to disclose in ulations §1.56.	formation which	is material to pate	ntability as defi	ined in 1	⊺itle 37,
I hereby claim foreign application(s) for pate application for patent priority is claimed:	ent or inventor's	certificate listed	below and have a	Iso identified be	elow any	y foreign
Prior Foreign App	lication(s)			Р	riority C	laimed
SHO 61-48629 (Number)		apan intry)	07 March 1986 (Day/Month/Yr		<b>Z</b> yes	□ no
(Number)	(Cou	intry)	(Day/Month/Yr		lyes	□ no
I hereby claim the be listed below and, inso in the prior United Sta States Code, §112, I of Federal Regulation national or PCT inter	ofar as the subje ates application i acknowledge the as, §1.56(a) whic	ct matter of each in the manner pro duty to disclose th occurred betw	of the claims of to ovided by the first material informate een the filing data	his application paragraph of T ion as defined i	is not di litle 35, i in Title 3	sclosed United 37, Code
(Application Serial	No.)	(Filing Date)		(Status) ited, pending, aband	oned)	
(Application Serial	No.)	(Filing Date)	(pater	(Status) ited, pending, aband	oned)	
(Application Serial	No.)	(Filing Date)		(Status)	_	

(Status) (patented, pending, abandoned)

I verily believe the original patent to be wholly below. (check all boxes that apply)	or partly inoperative or invalid, for the reasons described
by reason of a defective spe	cification or drawing.
by reason of the patentee cla the patent.	aiming more or less than he had the right to claim in
☑ by reason of other errors as	described below.
dependent on patent claim 8. Patent claim 8 re 1, in turn, limits such compound to those wher substituted by methyl." Patent claim 9 recites tetrahydrothiazine compound, which would con	respond to compounds of patent claim 1 wherein A aim 1 does not permit A to represent a propylene group.
Second, the USPTO has determined that pate inventions, and has required restriction.	nt claims contain multiple independent and distinct
The present reissue application corrects these limited to pyrrolidine compounds by amending CH-R <sup>3</sup> , and canceling original patent claims 2-	two errors as follows: The patent claims have been original patent claim 1 to cancel values of X other than 6 and 9.
All errors corrected in this reissue application a applicant.	arose without any deceptive intention on the part of the
made on information and belief are believed to with the knowledge that willful false statements imprisonment, or both, under Section 1001 of 3	in of my own knowledge are true and that all statements be true; and further that these statements were made and the like so made are punishable by fine or Fitle 18 of the United States Code and that such willful the application or any patent issued thereon, or any
POWER OF ATTORNEY: As a named invento	r, I hereby appoint
Practioners Associated with the Customer Number:	27384
as my/our attorney(s) and/or agent(s) to prosect Patent and Trademark Office connected therever	cute this application and transact all business in the with.
The undersigned hereby authorizes the U.S. instructions from the Assignee of this application and Trademark Office reporting this application	attorney or agent named herein to accept and follow nas to any action to be taken in the United States Patent

DIRECT TELEPHONE CALLS TO: Kurt G. Briscoe

attorney or agent and the undersigned.

and Trademark Office regarding this application without direct communication between the U.S.

FULL NAME OF SOLE OR FIRST INVENTOR	INVENTOR'S SIG	SNATURE	DATE
KOZO SHIOKAWA	Los Stralowe		19 Agril 2006
RESIDENCE		CITIZENSHIP	
6-2-13 Chuo, Sagamihara-shi, Kanagawa, 229-0039, Japa	an	Japanese	
POST OFFICE ADDRESS Same as above			
Came as above			
FULL NAME OF SECOND JOINT INVENTOR, IF ANY SHINICHI TSUBOI	INVENTOR'S SIG	SNATURE	DATE
RESIDENCE 1-57-S 410, Wada, Suginami-ku, Tokyo, 166-0012, Japan POST OFFICE ADDRESS		CITIZENSHIP Japanese	
Same as above			
FULL NAME OF THIRD JOINT INVENTOR, IF ANY SHINZO KAGABU	INVENTOR'S SIG	NATURE	DATE
RESIDENCE 1246-22, Nagara, Gifu-shi, Gifu, 502-0071, Japan		CITIZENSHIP Japanese	
POST OFFICE ADDRESS Same as above			
FULL NAME OF FOURTH JOINT INVENTOR, IF ANY SHOKO SASAKI	INVENTOR'S SIG	SNATURE	DATE
RESIDENCE 6-10-8-111, Minamidaira, Hino-shi, Tokyo, 191-0041, Japa	an	CITIZENSHIP Japanese	
POST OFFICE ADDRESS Same as above			
FULL NAME OF FIFTH JOINT INVENTOR, IF ANY KOICHI MORIYA	INVENTOR'S SIG	NATURE	DATE
RESIDENCE 3-15=8=701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap POST OFFICE ADDRESS	pan	CITIZENSHIP Japanese	
Same as above			
FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI	INVENTOR'S SIG	NATURE	DATE
RESIDENCE 12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan		CITIZENSHIP Japanese	
POST OFFICE ADDRESS Same as above			
FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY	INVENTOR'S SIG	NATURE	DATE
RESIDENCE	,	CITIZENSHIP	
POST OFFICE ADDRESS			
FULL NAME OF EIGHTH JOINT INVENTOR, IF ANY	INVENTOR'S SIG	NATURE	DATE
RESIDENCE		CITIZENSHIP	
POST OFFICE ADDRESS			

#### I/We hereby declare that:

My/our residence, post office address and citizenship are as stated below next to my name,

original, first and join	t inventor (if plural r t number <u>4,849,43</u>	names are listed <b>2</b> , granted <b>July</b>	ntor (if only one name i below) of the subject m 18, 1989 and for which POUNDS	atter which is	describe
the specification of w	hich				
(check one)	☐ is being filed h	nerewith, or			
			2 as reissue applica through April 12, 2006		nber
I hereby reviewed an claims, as amended			oove identified specificate.	ation, including	g the
I acknowledge the du Code of Federal Reg		mation which is	material to patentability	as defined in	Title 37,
application(s) for pate	ent or inventor's ce	rtificate listed be	ited States Code, §119 low and have also ider ng date before that of t	ntified below a	ny foreigr
Prior Foreign App	lication(s)			Priority	Claimed
SHO 61-48629 (Number)	<u>Japa</u> (Count		07 March 1986 (Day/Month/Yr. Filed)		□ no
(Number)	(Count	ry)	(Day/Month/Yr. Filed)	□yes	□ no
listed below and, inse in the prior United St States Code, §112, I	ofar as the subject ates application in acknowledge the d ns, §1.56(a) which	matter of each o the manner prov luty to disclose n occurred betwee	Code, §120 of any Unit f the claims of this app ided by the first paragr naterial information as o n the filing data of the n:	lication is not of aph of Title 35 defined in Title	disclosed 5, United 37, Code
(Application Seria	l No.)	(Filing Date)	(Sta	tus) ing, abandoned)	
(Application Seria	l No.)	(Filing Date)		tus) ing, abandoned)	
(Application Seria	l No.)	(Filing Date)		tus) ing, abandoned)	

I verily believe the original patent to be wholly below. (check all boxes that apply)	or partly inoperative or invalid, for the reasons described
☐ by reason of a defective spe	cification or drawing.
by reason of the patentee cla the patent.	aiming more or less than he had the right to claim in
☑ by reason of other errors as	described below.
dependent on patent claim 8. Patent claim 8 re 1, in turn, limits such compound to those where substituted by methyl." Patent claim 9 recites tetrahydrothiazine compound, which would con	respond to compounds of patent claim 1 wherein A aim 1 does not permit A to represent a propylene group.
Second, the USPTO has determined that pate inventions, and has required restriction.	nt claims contain multiple independent and distinct
The present reissue application corrects these limited to pyrrolidine compounds by amending CH-R <sup>3</sup> , and canceling original patent claims 2-	two errors as follows: The patent claims have been original patent claim 1 to cancel values of X other than 6 and 9.
All errors corrected in this reissue application a applicant.	arose without any deceptive intention on the part of the
with the knowledge that willful false statements imprisonment, or both, under Section 1001 of 1	in of my own knowledge are true and that all statements be true; and further that these statements were made and the like so made are punishable by fine or Fitle 18 of the United States Code and that such willful the application or any patent issued thereon, or any
POWER OF ATTORNEY: As a named invento	r, I hereby appoint
Practioners Associated with the Customer Number:	27384
as my/our attorney(s) and/or agent(s) to prosect Patent and Trademark Office connected therever	ute this application and transact all business in the with.
The undersigned hereby authorizes the U.S. instructions from the Assignee of this application and Tradomork Office recording this application	attorney or agent named herein to accept and follow as to any action to be taken in the United States Patent

DIRECT TELEPHONE CALLS TO: Kurt G. Briscoe

attorney or agent and the undersigned.

and Trademark Office regarding this application without direct communication between the U.S.

FULL NAME OF SOLE OR FIRST INVENTOR KOZO SHIOKAWA	INVENTOR'S SIG	SNATURE	DATE
RESIDENCE 6-2-13 Chuo, Sagamihara-shi, Kanagawa, 229-0039, Japa	CITIZENSHIP Japanese		
POST OFFICE ADDRESS	Japanese		
Same as above			
FULL NAME OF SECOND JOINT INVENTOR, IF ANY	INVENTORIO OLO	NATURE -	
SHINICHI TSUBOI	INVENTOR'S SIG		DATE
RESIDENCE 1-57-S 410, Wada, Suginami-ku, Tokyo, 166-0012, Japan		CITIZENSHIP Japanese	
POST OFFICE ADDRESS Same as above			
FULL NAME OF THIRD JOINT INVENTOR, IF ANY	INVENTOR'S SIG		DATE
SHINZO KAGABU RESIDENCE	Thingo Icaga	LOUTIZENOUID	Apr. 219, 2006
1246-22, Nagara, Gifu-shi, Gifu, 502-0071, Japan		CITIZENSHIP Japanese	
POST OFFICE ADDRESS		Jupanese	
Same as above			
FULL NAME OF FOURTH JOINT INVENTOR, IF ANY	LIN (ENTODIO OLO	N. A. T. 10.5	
SHOKO SASAKI	INVENTOR'S SIG	SNATURE	DATE
RESIDENCE		CITIZENSHIP	
i-10-8-111, Minamidaira, Hino-shi, Tokyo, 191-0041, Japan Japanese OST OFFICE ADDRESS			
Same as above			
		·	
FULL NAME OF FIFTH JOINT INVENTOR, IF ANY KOICHI MORIYA	MORIYA		
RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap	CITIZENSHIP		
POST OFFICE ADDRESS	an_	Japanese	
Same as above			
FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI	INVENTOR'S SIG	NATURE	DATE
RESIDENCE	<u> </u>	CITIZENSHIP	
12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan		Japanese	İ
POST OFFICE ADDRESS			
Same as above			
FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY	INVENTOR'S SIG	NATURE	DATE
RESIDENCE	l	CITIZENSHIP	
DOCT OFFICE ADDRESS	-		
POST OFFICE ADDRESS			
FULL NAME OF EIGHTH JOINT INVENTOR, IF ANY	INVENTOR'S SIG	NATURE	DATE
RESIDENCE		CITIZENSHIP	
POST OFFICE ADDRESS		· · · · · · · · · · · · · · · · · · ·	,
			l

I/We	hereb	y declare	that:
------	-------	-----------	-------

(Application Serial No.)

My/our residence, post office address and citizenship are as stated below next to my name,

I/We believe I am/we original, first and joint and claimed in paten sought on the inventi	inventor (if plural r t number <u>4,849,43</u>	names are listed <mark>2</mark> , granted <u>July</u>	below) of 1	he subject matte	r which is	described
the specification of w	hich		•			
(check one)	☐ is being filed h	nerewith, or				
	⊠ was filed on_ <u>l</u> 10/067,189 an	February 4, 200 d was amended			serial nun	nber
I hereby reviewed an claims, as amended				ified specification	, includin	g the
I acknowledge the du Code of Federal Reg		mation which is	material to	patentability as o	defined in	Title 37,
I hereby claim foreign application(s) for pate application for patent priority is claimed:	ent or inventor's ce	rtificate listed be	low and h	ave also identified	d below a	ny foreign
Prior Foreign Appl	ication(s)				Priority	Claimed
SHO 61-48629 (Number)	(Countr		07 March 1986 (Day/Month/Yr. Filed)		⊠yes	□ no
(Number)	(Countr	ry)	(Day/Mor	nth/Yr. Filed)	□yes	□ no
I hereby claim the be- listed below and, inso in the prior United Sta States Code, §112, I of Federal Regulation national or PCT interior	ofar as the subject of ates application in the acknowledge the downion of the second second is the subject of t	matter of each o the manner prov uty to disclose m occurred betwee	f the claim ided by the naterial info n the filing	s of this application of first paragraph communication as defined from the communication as defined	on is not of of Title 35 ed in Title	disclosèd 5, United 37, Code
(Application Serial	No.)	(Filing Date)	<del></del>	(Status) (patented, pending, ab	andoned)	
(Application Serial	No.)	(Filing Date)	-	(Status) (patented, pending, ab	andoned)	

(Filing Date)

(Status) (patented, pending, abandoned)

I verily believe the original patent to be wholly or partly inoperative or invalid, for the reasons described below. (check all boxes that apply)
□ by reason of a defective specification or drawing.
by reason of the patentee claiming more or less than he had the right to claim in the patent.
☑ by reason of other errors as described below.
The present reissue application is filed to correct two errors: First, patent claim 9 is improperly dependent on patent claim 8. Patent claim 8 requires "a compound according to claim 1." Patent claim 1, in turn, limits such compound to those wherein "A represents an ethylene group which may be substituted by methyl." Patent claim 9 recites two tetrahydropyrimidine compounds and one tetrahydrothiazine compound, which would correspond to compounds of patent claim 1 wherein A represents a propylene group. Since patent claim 1 does not permit A to represent a propylene group, patent claim 9 is improperly dependent on patent claim 8.
Second, the USPTO has determined that patent claims contain multiple independent and distinct inventions, and has required restriction.
The present reissue application corrects these two errors as follows: The patent claims have been limited to pyrrolidine compounds by amending original patent claim 1 to cancel values of X other than CH-R³, and canceling original patent claims 2-6 and 9.
All errors corrected in this reissue application arose without any deceptive intention on the part of the applicant.
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon, or any patent to which this declaration is directed.
POWER OF ATTORNEY: As a named inventor, I hereby appoint
Practioners Associated with the Customer Number: 27384
as my/our attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

**DIRECT TELEPHONE CALLS TO:** 

attorney or agent and the undersigned.

Kurt G. Briscoe

(212) 808-0700

The undersigned hereby authorizes the U.S. attorney or agent named herein to accept and follow instructions from the Assignee of this application as to any action to be taken in the United States Patent and Trademark Office regarding this application without direct communication between the U.S.

FULL NAME OF SOLE OR FIRST INVENTOR KOZO SHIOKAWA	INVENTOR'S SIG	SNATURE	DATE
RESIDENCE	_	CITIZENSHIP	
6-2-13 Chuo, Sagamihara-shi, Kanagawa, 229-0039, Japa	in	Japanese	
POST OFFICE ADDRESS Same as above			0.00
Same as above	And the second second	and the same of the same same same same same same same sam	
FULL NAME OF SECOND JOINT INVENTOR, IF ANY	INVENTOR'S SIG	MATURE )	DATE
SHINICHI TSUBOI	Thin schi	bubble	20 April. 06
RESIDENCE	The many comments of the page from the property of the page of the	CITIZENSHIP	The best of the same
1-57-S 410, Wada, Suginami-ku, Tokyo, 166-0012, Japan	<u></u>	Japanese	
POST OFFICE ADDRESS			
Same as above	<u> </u>		
FULL NAME OF THIRD JOINT INVENTOR, IF ANY	INVENTOR'S SIG	NATIDE	DATE
SHINZO KAGABU	INVENTOR'S SIG		DATE
RESIDENCE		CITIZENSHIP	
1246-22, Nagara, Gifu-shi, Gifu, 502-0071, Japan		Japanese	
POST OFFICE ADDRESS			
Same as above			
CHILL NAME OF COURTH IONIT OF COURT	TINN (ENTABLE 21	MATURE	DATE
FULL NAME OF FOURTH JOINT INVENTOR, IF ANY SHOKO SASAKI	INVENTOR'S SIG		DATE
RESIDENCE		CITIZENSHIP	
6-10-8-111, Minamidaira, Hino-shi, Tokyo, 191-0041, Japa	ı <b>n</b>	Japanese	
POST OFFICE ADDRESS			
Same as above			
	and the second s	man a company of a company of the co	
FULL MANE OF FIFTH JOINT IN CAITOR IS ANY	15.0 (ENTODIO 010	NATION	5475
FULL NAME OF FIFTH JOINT INVENTOR, IF ANY	INVENTOR'S SIG		DATE / 2006
KOICHI MORIYA	INVENTOR'S SIG	ma	DATE / rout
RESIDENCE	Korchi Mr	CITIZENSHIP	DATE 18 April 2006
RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap	Korchi Mr	ma	DATE / Zout
RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap POST OFFICE ADDRESS	Korchi Mr	CITIZENSHIP	DATE / Zout
RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap	Korchi Mr	CITIZENSHIP	PATE / rowt
KOICHI MORIYA  RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap POST OFFICE ADDRESS Same as above	Korchi (Mr	CITIZENSHIP Japanese	DATE
KOICHI MORIYA  RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY	inventor's sig	CITIZENSHIP Japanese	DATE
RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI	inventor's sig	CITIZENSHIP Japanese	To April 2000
RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI RESIDENCE	inventor's sig	CITIZENSHIP Japanese  NATURE	DATE
RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI	inventor's sig	CITIZENSHIP Japanese  NATURE CITIZENSHIP	DATE
RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI RESIDENCE 12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan POST OFFICE ADDRESS	inventor's sig	CITIZENSHIP Japanese  NATURE CITIZENSHIP	DATE
KOICHI MORIYA  RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI RESIDENCE 12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan POST OFFICE ADDRESS Same as above	INVENTOR'S SIG	CITIZENSHIP Japanese  CITIZENSHIP Japanese	DATE
RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI RESIDENCE 12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan POST OFFICE ADDRESS	inventor's sig	CITIZENSHIP Japanese  CITIZENSHIP Japanese	DATE
RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI RESIDENCE 12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan POST OFFICE ADDRESS Same as above  FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY	INVENTOR'S SIG	CITIZENSHIP Japanese  CITIZENSHIP Japanese  CITIZENSHIP Japanese	DATE \$170406
KOICHI MORIYA  RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI RESIDENCE 12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan POST OFFICE ADDRESS Same as above	INVENTOR'S SIG	CITIZENSHIP Japanese  CITIZENSHIP Japanese	DATE \$170406
RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI RESIDENCE 12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan POST OFFICE ADDRESS Same as above  FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY RESIDENCE	INVENTOR'S SIG	CITIZENSHIP Japanese  CITIZENSHIP Japanese  CITIZENSHIP Japanese	DATE \$170406
RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI RESIDENCE 12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan POST OFFICE ADDRESS Same as above  FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY	INVENTOR'S SIG	CITIZENSHIP Japanese  CITIZENSHIP Japanese  CITIZENSHIP Japanese	DATE \$170406
RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI RESIDENCE 12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan POST OFFICE ADDRESS Same as above  FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY RESIDENCE	INVENTOR'S SIG	CITIZENSHIP Japanese  CITIZENSHIP Japanese  CITIZENSHIP Japanese	DATE \$170406
RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI RESIDENCE 12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan POST OFFICE ADDRESS Same as above  FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY RESIDENCE	INVENTOR'S SIG	CITIZENSHIP Japanese  CITIZENSHIP Japanese  CITIZENSHIP Japanese  CITIZENSHIP	DATE \$170406
RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI RESIDENCE 12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan POST OFFICE ADDRESS Same as above  FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY RESIDENCE POST OFFICE ADDRESS  FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY	INVENTOR'S SIG	CITIZENSHIP Japanese  CITIZENSHIP Japanese  CITIZENSHIP Japanese  CITIZENSHIP	DATE 8/10406
RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI RESIDENCE 12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan POST OFFICE ADDRESS Same as above  FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY RESIDENCE POST OFFICE ADDRESS	INVENTOR'S SIG	CITIZENSHIP Japanese  CITIZENSHIP Japanese  CITIZENSHIP Japanese  CITIZENSHIP	DATE &/20406
RESIDENCE 3-15-8-701, Asakusabashi, Taito-ku, Tokyo, 111-0053-Jap POST OFFICE ADDRESS Same as above  FULL NAME OF SIXTH JOINT INVENTOR, IF ANY YUMI HATORI RESIDENCE 12397-4, Yuki, Yuki-shi, Ibaraki, 307-0001, Japan POST OFFICE ADDRESS Same as above  FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY RESIDENCE POST OFFICE ADDRESS  FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY	INVENTOR'S SIG	CITIZENSHIP Japanese  CITIZENSHIP Japanese  CITIZENSHIP Japanese  CITIZENSHIP	DATE & 170406